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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,957	12/27/2000	Tadayoshi Kono	108391-00014	3190

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EXAMINER

VO, TUNG T

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/747,957	<b>Applicant(s)</b> KONO ET AL.	
	<b>Examiner</b> Tung Vo	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1 and 9 filed 07/25/2005 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 5-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Mendenhall et al. (US 6,424,381 B1) in view of Normile et al. (US 5,461,679).

Re claims 1 and 9, Mendenhall discloses an MPEG video decoder (fig. 4) comprising: an image decoding section (130 of fig. 6) which decodes parameters of each layer and a picture based on an MPEG bit stream; a frame memory (114 of fig. 6) having a plurality of banks and connected to decoding section (130 of fig.5), wherein each of said bank stores one picture and the parameters of each layer decoded by said image decoding section by mutually relating the picture and the parameters as set (col. 8, lines 34-45), wherein the layer includes sequence layer which has a horizontal size value and vertical size value, both expressing sizes of an image, as parameters (MPEG standard has a sequence layer that has a horizontal size value and a vertical size value (col. 8, lines 27-33); a decode control section (128 of fig. 6) which controls said image

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decoding section; and a display control section (134, 230 of fig.6) which carries out a display control of a picture to be displayed, based on the parameters (Status and Control, Interface 124 of fig. 6) of each layer related to said picture stored in said frame memory (114 of fig. 6).

Mendenhall teaches wherein said internal buffer also works as a buffer for temporarily storing the decoded parameters of each layer (col. 8, lines 40-42, e.g. the decoder 130 includes buffers for storing the decoded image and each of the syntax layers).

It is noted Mendenhall does not particularly teach each of the banks has an area for storing the decoded picture and the decoded parameters and each of the banks stores the decoded picture and the decoded parameters as a set; and a status register has an arbitration function for arbitrating between the decode control section and the display control section as claimed.

However, Normile teaches each of the banks has an area for storing the decoded picture and the decoded parameters and each of the banks stores the decoded picture and the decoded parameters as a set (405 of fig. 4, e.g. job banks and decoded banks), and a status register (410 of fig. 4) has an arbitration function (502 of fig. 5, e.g. Arbitration Mechanism communicates with the status registers) for arbitrating between the decode control section and the display control section (Host 410 and Display 428 of fig. 4).

Therefore, takings the teachings of Normile and Mendenhall as a whole, it would have been obvious to one ordinary skill in the art to incorporate the status registers (410 of fig. 4) and the arbitration function (502 of fig. 5) of Normile for the same purpose of indicating when the decoded image and the parameters stored in memory complete so that the encoding/decoding system is able to compute power to allow compressed (encoded) moving video images to be decoded and displayed in real time. Doing so would provide to the display a high quality image.

Re claims 2 and 10, Mendenhall further discloses a status register which displays a state of storing pictures of the plurality of banks (124 of fig. 2, e.g. the host interface includes registers, read and write FIFO and others logical, status and control), wherein said decode control section updates said status register when the decoding of one picture has been completed, and said display control section updates said status register when the display of one picture has been completed.

Re claim 3, Mendenhall further teaches wherein said image decoding section has an internal buffer (col. 8, lines 40-42, e.g. the decoder 130 includes buffers for storing the decoded image and each of the syntax layers (parameters)) that temporarily stores a decoded picture in a macro-block unit.

Re claim 5, Mendenhall further teaches wherein a data transfer path for transferring a decoded picture from said internal buffer to said frame memory also works as a data transfer path for transferring the decoded parameters of each layer between said internal buffer and said frame memory (14 of fig. 1).

Re claim 6, Mendenhall further teaches wherein said image decoding section decodes the parameters of a picture to be decoded, and updates parameters of each layer related to a picture that has been decoded immediately before by writing the decoded parameters into these parameters, thereby to generate the parameters of each layer relating to the picture to be decoded (124 of fig. 6, e.g. the host microcontroller (104 of fig. 4) writes video, audio, and configuration data and other status information to predefined registers and the host interface 124).

Re claim 7, Mendenhall further teaches wherein said decode control section operates asynchronously with a vertical synchronization signal, and said display control section operates

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in synchronism with the vertical synchronization serial (230 of fig. 6, e.g. the display control 230 sets the location of the video image on the display 90 (FIG. 2) with respect to sync signals (not shown) to account for the requirements of several different timing systems and display modes. The output signal from horizontal interpolation filter 238 is then processed by SPU mixer 240 which adds SPU data from the SPU decoder 132 to the video data stream from filter 238).

Re claim 8, Mendenhall further teaches wherein if the displayed picture is a reference picture of other picture, then said display control section does not update said status register after the completion of the display of that picture (120 of fig. 4, e.g. the decoder 120 continuously or periodically monitors the registers for updated information and responds accordingly).

Re claims 1 1-12, Mendenhall further discloses the video decoder (130 of fig. 6) also decodes layer of syntax in the MPEG bitstream starting from **the sequence layer** and going through all of the lower layers including the **group of picture layer, picture layer, slice layer, macro block layer and block layer** (col. 8, lines 27-33).

### ***Conclusion***

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tung Vo  
Primary Examiner  
Art Unit 2613